

CLAIMS

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5 *Sub 1* 1. A tilt-latch for a sash window disposed within opposed guide rails on a master frame, the sash window comprises a top rail, a base and two stiles connected together at their extremities, the tilt-latch adapted for releaseably securing the sash window to the master frame, the tilt-latch comprising:

10 a housing adapted to be supported by the top rail, the housing having an outward end opening;

a latch bolt disposed within the housing, the latch bolt having a nose adapted for engaging a respective one of the guide rails, the latch bolt further having a post extending from the latch bolt, the latch bolt having an extended position and a retracted position; and,

15 an actuator having a notch positioned substantially at a mid-portion of the actuator, wherein the post is received in the notch and wherein only a portion of the nose extends past the outward end opening when the latch bolt is in the extended position.

20 2. The tilt-latch of claim 1 wherein the actuator has a control button extending from the actuator.

25 3. The tilt-latch of claim 2 further comprising a finger depending from a lower portion of the actuator, wherein the finger is positioned between the notch and the control button.

4. The tilt-latch of claim 1 further comprising a means for biasing the latch bolt through the outward end opening.

5. The tilt-latch of claim 4 wherein the biasing means comprises a spring.

5 6. A tilt-latch for a sash window disposed within opposed guide rails on a master frame, the sash window comprises a top rail, a base and two stiles connected together at their extremities, the tilt-latch adapted for releaseably securing the sash window to the master frame, the tilt-latch comprising:

a housing adapted to be supported by the top rail, the housing having an outward end opening;

a latch bolt disposed within the housing, the latch bolt having a nose adapted for engaging a respective one of the guide rails, the latch bolt further having a post extending from the latch bolt, the latch bolt having an extended position and a retracted position; and,

15 an actuator having a notch positioned substantially at a mid-portion of the actuator, wherein the post is received in the notch and wherein a portion of the nose is disposed within the housing when the latch bolt is in the extended position.

20 7. The tilt-latch of claim 6 wherein the actuator has a control button comprising a protrusion extending from the actuator.

25 8. The tilt-latch of claim 7 further comprising a finger depending from a lower portion of the actuator, wherein the finger is positioned between the notch and the control button.

9. The tilt-latch of claim 6 further comprising a means for biasing the latch bolt through the outward end opening.

10. The tilt-latch of claim 9 wherein the biasing means comprises a spring.

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11. A tilt-latch for a sash window disposed within opposed guide rails on a master frame, the sash window comprises a top rail, a base and two stiles connected together at their extremities, the tilt-latch adapted for releaseably securing the sash window to the master frame, the tilt-latch comprising:

10 a housing adapted to be supported by the top rail, the housing having an outward end opening;

a latch bolt disposed within the housing, the latch bolt having a nose adapted for engaging a respective one of the guide rails, the latch bolt further having a post; and,

15 an actuator having a plurality of notches, wherein the post is received in one of the notches to connect the actuator to the latch bolt.

12 *11*. The tilt-latch of claim 1 wherein the notches are located in a lower portion of the actuator and are spaced apart.

20 *13* *12*. The tilt-latch of claim 1 further comprising a means for biasing the latch bolt through the outward end opening.

14 *13*. The tilt-latch of claim 12 wherein the biasing means comprises a spring.

25 *15* *14*. The tilt-latch of claim 13 wherein the latch bolt has a wall and the spring has one end positioned abutting the wall and another end abutting the housing.

146 ~~15.~~ A tilt-latch for a sash window disposed within opposed guide rails on a master frame, the sash window comprises a top rail, a base and two stiles connected together at their extremities, the tilt-latch adapted for releasably securing the sash window to the master frame, the tilt-latch comprising:

a housing adapted to be supported by the top rail, the housing having an outward end opening;

a latch bolt disposed within the housing, the latch bolt having a nose adapted for engaging a respective one of the guide rails, the latch bolt further having a post extending from the latch bolt, the latch bolt having an extended position and a retracted position defining a latch bolt stroke between the positions; and,

an actuator having a first notch and second notch, wherein the post is received in at least one of the first or second notches,

wherein the stroke varies with reception of the post in the first or second notch.

17 ~~17.~~ The tilt-latch of claim 16 wherein the notches are located in a lower portion of the actuator and are spaced apart.

18 19. The tilt-latch of claim 16 wherein the first notch is located substantially at a front portion of the actuator and the second notch is positioned substantially at a mid-portion of the actuator, wherein the stroke of the latch bolt when the post is received by the second notch is less than the stroke of the latch bolt when the post is received by the first notch.

19 ~~20.~~ The tilt-latch of claim 19 further comprising a means for biasing the latch bolt through the outward end opening.

20 ~~21.~~ A tilt-latch for a sash window disposed within opposed guide rails on a master frame, the sash window comprises a top rail, a base and two stiles

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connected together at their extremities, the tilt-latch adapted for releaseably securing the sash window to the master frame, the tilt-latch comprising:

a housing adapted to be supported by the top rail, the housing having an outward end opening;

a latch bolt disposed within the housing, the latch bolt movable a distance when the latch bolt is retracted into the housing, the latch bolt having a nose adapted for engaging a respective one of the guide rails, the latch bolt further having a post extending from the latch bolt; and,

an actuator having a first notch and second notch, wherein the post is received in at least one of the first or second notches and wherein the distance varies with reception of the post in the first or second notch.

²² 22. The tilt-latch of claim 21 wherein the notches are located in a lower portion of the actuator and are spaced apart.

²³ 23. The tilt-latch of claim 22 further comprising a finger depending from a lower portion of the actuator, wherein the first and second notches are positioned to one side of the finger.

²⁴ 24. The tilt-latch of claim 21 wherein the first notch is located substantially at a front portion of the actuator and the second notch is positioned substantially at a mid-portion of the actuator, wherein the distance the latch bolt is movable when the post is received by the second notch is less than the distance the latch bolt is movable when the post is received by the first notch.

²⁵ 25. The tilt-latch of claim 21 further comprising a means for biasing the latch bolt through the outward end opening.

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~~25~~ 26. A tilt-latch for a sash window disposed within opposed guide rails on a master frame, the sash window comprises a top rail, a base and two stiles connected together at their extremities, the tilt-latch adapted for releaseably securing the sash window to the master frame, the tilt-latch comprising:

5 a housing adapted to be supported by the top rail, the housing having an outward end opening;

a latch bolt disposed within the housing, the latch bolt having a nose that extends a distance through the outward end opening, the nose adapted for engaging a respective one of the guide rails; and,

10 an actuator;

a means for connecting the latch bolt to the actuator, the means allowing the distance the nose extends through the outward end opening to be adjusted.

~~26~~ 27. The tilt-latch of claim 26 wherein the connecting means comprises a latch bolt having a post, and the actuator having a first notch and a second notch, the post being received in one of the notches, wherein the distance the nose extends through the outward end opening varies based on what notch receives the post.

~~27~~ 28. The tilt-latch of claim 27 wherein the first notch and the second notch are spaced apart.

~~28~~ 29. The tilt-latch of claim 26 wherein the latch bolt can be retracted into the housing to define a latch bolt stroke, the connecting means allowing the latch bolt stroke to be adjusted.

~~29~~ 30. A system for assembling a tilt-latch for a sash window disposed within opposed guide rails on a master frame, the sash window comprises a top rail, a

base and two stiles connected together at their extremities, the tilt-latch adapted for releaseably securing the sash window to the master frame, the system comprising:

providing a housing adapted to be supported by the top rail, the housing having an outward end opening;

providing a latch bolt disposed within the housing, the latch bolt having a nose adapted for engaging a respective one of the guide rails, the latch bolt further having a post extending from the latch bolt;

providing a plurality of actuators, each actuator having a notch adapted to be received by the post, the respective notches positioned in a different location on each actuator, the latch bolt being connectable to the actuator wherein the post is received by the notch and the nose extends through the outward opening a distance, the distance varying depending on the actuator selected;

selecting an actuator based on the desired distance the nose is to extend through the outward end opening; and

connecting the selected actuator to the latch bolt wherein the post is received by the notch.

²³⁰ 31. The system of claim 30 wherein one of the actuators has a notch located substantially at a front portion of the actuator wherein when the actuator is connected to the latch bolt, the entire nose extends through the outward end opening.

³¹ 32. The system of claim 30 wherein one of the actuators has a notch located substantially at a mid-portion of the actuator wherein when the actuator is connected to the latch bolt, a portion of the nose extends through the outward end opening.

³² 33. A tilt-latch for a sash window disposed within opposed guide rails on a master frame, the sash window comprises a top rail, a base and two stiles

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connected together at their extremities, the tilt-latch adapted for releaseably securing the sash window to the master frame, the tilt-latch comprising:

a housing adapted to be supported by the top rail, the housing having an outward end opening;

a latch bolt disposed within the housing, the latch bolt having a nose adapted for engaging a respective one of the guide rails

an actuator;

a post located on one of the latch bolt and the actuator and a notch located on the other of the latch bolt and actuator, the post or notch being positioned such that when the latch bolt is fully extended through the outward end opening, a portion of the nose is positioned within the housing.

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